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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/287,673	04/07/1999	RICHARD FERENCZ	PGI-40016	6583

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EXAMINER
TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/287,673	FERENCZ ET AL.	
	Examiner	Art Unit	
	Norca L. Torres-Velazquez	1771	

-- The MAILING DATE of this communication appears on the c ver sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on June 20, 2003 have been fully considered but they are not persuasive.

a. Applicants argue that the Dorschner et al. reference does not teach effecting hydroentanglement subsequent to filament collection. Further, that the reference employs air streams for attenuation and quenching of filaments during spunbond web formation, therefore liquid streams cannot be employed for this purpose. The Applicants further indicate that the Dorscher et al. reference is limited to compacting, heat-sealing, latex treatment, and needling. Applicants note that needling contemplates mechanical needle-punching with barbed needles, a distinctly different process than hydroentanglement with high-pressure liquid streams.

It is the Examiner position that mechanical needling is a mechanical process for entangling filaments used in the art of nonwoven fabrics that is equivalent to hydroentanglement since both are considered as means to mechanically entangle filaments in the art. While needling uses barbed needles, water jets are used in the process of hydroentanglement. The equivalency of these processes is shown in the Kusunose et al. reference that teaches the formation of fibrous bundles and uses means such as needle-punching, or air or water jet treatment.

With regards to Applicants' arguments stating that the Kusunose et al. reference teaches away from the use of filaments having a denier larger than 0.5, it is noted that the secondary reference is relied on to show that mechanical needling and hydroentangling

were known to be art-recognized equivalents. It is noted that hydroentangling is defined as a process for forming a fabric by mechanically wrapping and knotting fibers in a web through the use of high-velocity jets or curtains of water.

Applicants remarks regarding the process taught by Dorscher et al. in which air streams are employed for attenuation and quenching of filaments during spunbond web formation are noted. The Examiner notes Applicants remarks and corrects her position regarding substituting the use of water jets for air streams for attenuation and quenching of filaments during spunbond web formation. The hydroentangling process taught in the Kusunose et al. reference is used as an alternate process to the needling used in the Dorscher reference.

Therefore, claims remain rejected as stated below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over DORSCHNER et al. (US 3,692,618) in view of KUSUNOSE et al. (US 4,107,374).

DORSCHNER et al. teach the formation of a nonwoven web suitable for the production of textile-like or paper-like sheet material. The nonwoven web is formed by simultaneously spinning a multiple number of continuous filaments of a synthetic polymer. The filaments as they are spun are gathered into a straight row of side-by-side, evenly spaced apart, untwisted

bundles each containing at least 15 and preferably from 50 to 150 filaments. The reference further teaches that the gathering of the filaments into the bundles and their drawing and directing to impinge on the carrier is preferably effected by passing the bundles through air guns which surround the filaments with a column or jet of air which is directed downward at supersonic velocity. The filament bundles containing a number of parallel filaments are laid down on the carrier in a loop-like arrangement with primary loops extending back and forth across the width of a section defined by the impingement of the air column from one air gun on the carrier. (Column 3, lines 28-62)

The reference further teaches the use of polymeric fibers made of thermoplastic polymer capable of forming a melt, which can be spun, such as polyolefins, polyester and polyamides. (Column 4, lines 1-14). DORSCHNER et al. further teaches that the filaments produced by the spinning apparatus are preferably drawn to a thickness of from about 10 to 50 microns and are thus in the textile denier range, e.g., the filaments may have denier values of from about 1 to 20, although lower or higher denier filaments may be used depending on the end product to be formed. In forming a nonwoven web suitable for the production of textile-like sheet material, filaments of from 1 to 10 denier would be used. The drawn filaments generally have an elongation at break above 80%. (Column 4, lines 40-54) On Examples 3 and 4, the reference discloses webs with basis weight of 100 grams/m^2. (Columns 13 and 14).

Regarding the claimed ranges for the limitations of machine direction elongation, cross direction elongation, fiber entanglement frequency, fiber entanglement completeness value and fiber interlock values are broad and encompass typical values that are found in the prior art. Further each of the elements are recognized as result effective variables in this field of endeavor

and it has been held that discovering optimum values would have been obvious as optimization of result effective variables involves only routine experimentation.

While Dorscher et al. teaches needling of the web after is laid down (Column 10, lines 28-31), it fails to teach the use of hydroentanglement.

KUSUNOSE et al. discloses a nonwoven fabric usable as a substratum sheet for artificial leather that comprises numerous fibrous bundles entangled with each other to form the body of the nonwoven fabric. (Refer to claim 1). The reference further teaches that when the filament bundles are in the form of continuous filaments, they can be massed into a flat sheet form by being randomly accumulated on a wire net. This accumulating operation may be effected by ejecting the filament bundles together with a jet of a fluid, into the wire net. By the action of the jets of fluid, the fibrous bundles are mutually entangled and intertwined. (Column 4, lines 34-68)

DORSCHNER et al. discloses the claimed invention except that it uses needling instead of hydroentanglement, KUSUNOSE et al. show that hydroentanglement is an equivalent process known in the art. Therefore, because these two processes were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the needling process for hydroentanglement of the filaments to form the nonwoven fabric with the motivation of entangling and intertwining the fibrous bundles by the action of the jets of fluid, as disclosed by KUSUNOSE et al. (Column 4, lines 64-68)

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over DORSCHNER et al. (US 3,692,618) in view of KUSUNOSE et al. (US 4,107,374) as applied to claims 1-4 and 8-13 above, and further in view of SUSKIND et al. (US Patent 4,808,467).

The references fail to teach the use of a surface treatment and also fail to teach the use of their fabrics in articles such as medical apparel.

SUSKIND et al. discloses a spunlaced fabric suitable for disposable medical applications that is produced by hydraulically entangling wood pulp and staple fibers with a continuous filament base web producing a nonapertured high strength fabric, and treating the fabric with a fluorocarbon water repellant. (Column 1, lines 12-17).

The reference teaches the use of polyethylene, polypropylene, polyester and nylon as polymers from which the continuous filaments are made. (Column 3, lines 7-11).

Since DORSCHNER et al., KUSUNOSE et al. and SUSKIND et al. from the same field of endeavor, the purpose disclosed by SUSKIND et al. would have been recognized in the pertinent art of DORSCHNER et al. and KUSUNOSE et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the nonwoven fabric and provide it with a fluorocarbon water repellant with the motivation of using it as a disposable medical fabric as disclosed by SUSKIND et al. above.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-4 and 6-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 6-13 of copending Application No. 09/475,544. Although the conflicting claims are not identical, they are not patentably distinct from each other because the cross machine elongation property claimed in the present application would have been an obvious property once the hydroentangled nonwoven is provided.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 703-306-5714. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

NLT
August 1, 2003

ELIZABETH M. COLE
PRIMARY EXAMINER